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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,162	09/21/2001	Takahiko Sawada	TOS-146-USA	3033

7590

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Townsend & Banta  
Suite 500  
1225 Eye Street NW  
Washington, DC 20005

EXAMINER

BISSETT, MELANIE D

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/856,162

Applicant(s)

SAWADA ET AL.

Examiner

Melanie D. Bissett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5-8 and 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claims 5 and 11-13 recite the limitation "the polarizer". There is insufficient antecedent basis for this limitation in the claim. Changing the phrase to "a polarizer" would provide basis for the limitation.
4. Claim 6 recites the limitation "the thermoplastic saturated norbornene-type resin" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

### ***Summary of the Claims***

5. Claim 1 is drawn to a polarizing plate protection film consisting of a thermoplastic saturated norbornene-type resin film and a polyurethane resin layer. Claim 2 is drawn to a polarizing plate protection film comprising a thermoplastic saturated norbornene-type resin film, a polyurethane resin layer, and a polyvinyl alcohol layer, layered in that order. Claim 6 is drawn to a polarizing plate comprising a polyvinyl alcohol polarizer bonded to a norbornene resin layer protection film via a polyurethane adhesive. Claims 3-4 and 7-10 limit the polyurethane layer, and claims 5 and 11-13 limit the bonding of the protection film to the polarizer. The examiner relies on the definitions of

"norbornene-type resin", defined in the specification, p. 7, lines 13-17; and "water-type polyurethane adhesive", defined in the specification, p. 18, lines 7-10.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Nippon Zeon.

8. Nippon Zeon teaches a sheet of thermoplastic saturated norbornene-type resin laminated onto a PVA polarizer (abstract), where materials including two-component polyurethane adhesives are used to adhere the norbornene sheet to the polarizer [0045]. Such a laminate would have the structure of the applicant's claim 2, also anticipating claims 1 and 6-7.

9. Claims 1-2 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinohara et al.

10. Shinohara discloses liquid crystal display panels, where at least one layer contains a norbornene-type resin (abstract). Example 1 shows a film made by bonding two norbornene-type resin layers by a urethane adhesive, where a PVA polarizer is attached to the film. Also, example 3 shows a norbornene-type polymer film laminated

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with a urethane adhesive and a polarized vinyl alcohol copolymer membrane. Another example shows laminate of a norbornene-type resin protective film, a PVA polarizer film, and an intermediate acrylic adhesive (Reference Example 2). The specification teaches that polyurethane resin solutions are equally suitable adhesives in the invention (col. 9 lines 11-22).

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 3-4 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nippon Zeon in view of Oertel.

13. Nippon Zeon applies as above, noting the use of two-component urethane adhesives but failing to discuss the isocyanates or solvents used. Oertel teaches that modified isocyanates, such as those prepolymers formed by reacting an isocyanate with a polyol, are useful in reaction-type adhesives, where PI 1 has light color and low staining under light (p. 596). PI 1 has been noted as a polyisocyanate especially suitable for two-component reaction adhesives, having high reactivity at low temperatures (p. 597). Therefore, it is the examiner's position that it would have been prima facie obvious to use a modified polyisocyanate such as PI 1 in the polyurethane

adhesives of Nippon Zeon's invention to provide two-component adhesives having low reaction temperature and low coloration.

14. Oertel also teaches that dispersion adhesives based on aqueous polyurethane dispersions have more flexibility of use and cause less impact on the environment than organic solvent-based adhesives (p. 607). Wet bonding is possible with aqueous dispersions (11.6.3), and the adhesion to polar substrates is especially good (11.6.4).

Thus, it is the examiner's position that it would have been *prima facie* obvious to choose an aqueous polyurethane dispersion adhesive for Nippon Zeon's invention to provide an environmentally-conscious adhesive having improved adhesion to polar substrates.

15. Claims 3-4 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinohara et al. in view of Oertel.

16. Shinohara applies as above, noting the use of urethane adhesives but failing to discuss the isocyanates or solvents used. Oertel teaches that modified isocyanates, such as those prepolymers formed by reacting an isocyanate with a polyol, are useful in reaction-type adhesives, where PI 1 has light color and low staining under light (p. 596). PI 1 has been noted as a polyisocyanate especially suitable for two-component reaction adhesives, having high reactivity at low temperatures (p. 597). Therefore, it is the examiner's position that it would have been *prima facie* obvious to use a two-component adhesive containing a modified polyisocyanate such as PI 1 in the polyurethane adhesives of Shinohara's invention to provide adhesives having low reaction temperature and low coloration.

17. Oertel also teaches that dispersion adhesives based on aqueous polyurethane dispersions have more flexibility of use and cause less impact on the environment than organic solvent-based adhesives (p. 607). Wet bonding is possible with aqueous dispersions (11.6.3), and the adhesion to polar substrates is especially good (11.6.4). Thus, it is the examiner's position that it would have been prima facie obvious to choose an aqueous polyurethane dispersion adhesive for Shinohara's invention to provide an environmentally-conscious adhesive having improved adhesion to polar substrates.

***Allowable Subject Matter***

18. Claims 5 and 11-13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

19. The following is a statement of reasons for the indication of allowable subject matter:

20. The closest prior art, Shinohara et al. (USPN 5,516,456-A), discloses liquid crystal display panels, where at least one layer contains a norbornene-type resin. The resins are bonded to PVA polarizers by urethane adhesives. However, the reference does not mention an additional PVA adhesive used to bond the polarizer to the protection film. It is the examiner's position that the presence of the additional PVA layer in the applicant's claimed polarizing plate protection film laminate would provide a novel, unobvious step over the prior art.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (703) 308-6539. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

mdb  
November 25, 2002

  
**James J. Seidleck**  
**Supervisory Patent Examiner**  
**Technology Center 1700**